

Georgy Lukyanov

Curriculum Vitae

Education

- 2015–2017 **M. Sc. in Computer Science**, Southern Federal University, I. I. Vorovich Institute of Mathematics, Mechanics and Computer Science, Rostov-on-Don, Russia.
(in-progress)
- February – June 2016 **Eramus+ exchange program**, Vilnius University, Faculty of Mathematics and Informatics, Faculty of Philology, Vilnius, Lithuania.
- 2011–2015 **B. Sc. in Applied Mathematics and Computer Science**, Southern Federal University, I. I. Vorovich Institute of Mathematics, Mechanics and Computer Science, Rostov-on-Don, Russia.

Selected courses taken

- Quantum Computing (Southern Federal University, 2016)
- Optimizing Compilers Development (Southern Federal University, 2016)
- Cryptography (Vilnius University, 2016)
- Insights into Academic Discourse (Vilnius University, 2016)
- Certified Software Development with Dependent Types in Idris (Southern Federal University, 2014)
- Machine Learning (Southern Federal University, 2015)
- FPGA programming (Computing and microprogramming) (Southern Federal University, 2015)
- Functional Programming in Haskell (Southern Federal University, 2014)
- Supercomputer Technologies (Southern Federal University, 2014)
- Computer Organization (Southern Federal University, 2012)

Research interests

- Functional programming
- Theory of programming languages
- Effectful programming
- Software development with typed functional languages
- Machine learning

Master's thesis

Working title *Structuring effectful computation*

Supervisors Assistant Professor Artem Pelenitsyn

Description The thesis explores the monadic and algebraic effects and handlers frameworks by solving the standard model problem: building a parser combinators library. The work include a comparison of these approaches in terms of expressiveness and, for some of them, performance, and makes observations about their applicability. The side-effect of the thesis is demonstration the usage of the typed functional programming language with an effect system at scale: develop a full-featured effect-structured web application with Haskell.

Keywords Haskell, Frank, computational effects, monads, algebraic effects, effects handlers, parsers

Bachelor's thesis

Title *Functional parser of lightweight Markdown markup language based on monad combining and monoidal source stream representation*

Supervisors Assistant Professor Artem Pelenitsyn

Description Parser-combinator library based on monad transformers and monoid-subclasses as a representation of input stream was developed. This library was used to build a lightweight tool for taking lecture notes: parsing Markdown with \LaTeX pieces and rendering to HTML. Source code of library and tool is available on [GitHub](#). A prototype of monadic parser-combinators library based on extensible effects was built. Sources also are available on [GitHub](#).

Publications

1. Lukyanov G., Pelenitsyn A. Functional parser of Markdown language based on monad combining and monoidal source stream representation // Accepted for publication in proceedings of the 4th international conference on tools and methods of program analysis. – 2017.
2. Prototyping Resilient Processing Cores in Workcraft / G. Lukyanov, A. de Gennaro, A. Mokhov, P. Stankaitis, M. Rykunov // Accepted for publication in proceedings of the 2nd International Workshop on Resiliency in Embedded Electronic Systems. – SwissTech Convention Center, Lausanne, Switzerland, 2017.

Experience

August **Software Engineer**, Statzilla, Rostov-on-Don.

2015–June Taking part in projects connected with machine learning, statistics and digital signal processing. Development of web and desktop applications.

2017

Summer **Summer Intern**, Statzilla, Rostov-on-Don.

2015

September– **Teaching assistant**, Southern Federal University, Rostov-on-Don.

December Teaching “Functional Programming in Haskell” labs with occasional lecturing.

2015

May– **C# Developer**, Strob, Rostov-on-Don.

December Taking part in development of distributed system for collecting and processing of water meter data. Development of SCADA-like .NET-application.

2014

Awards

- December 2015 First place in data analysis competition “Me and the World in 2030” organized by Centr-Invest bank
- November 2015 Third place in hackathon “47 hours” as a part of team Statzilla for web-based arcade game project
- April 2015 First place in students research competition “Week of Science 2015” of Southern Federal University with project “Functional parser of lightweight Markdown markup language based on monad combining and monoidal source stream representation”

Computer skills

Programming languages

Strong knowledge: Haskell, C#, R, JavaScript, SQL

Some experience: Idris, C, C++, Java, PHP, Bash, Assembly

Markup Languages

HTML, CSS, \LaTeX , Markdown

Other

Virtualization: VirtualBox, Vagrant, Docker

Operating Systems: GNU/Linux (Ubuntu) administration, programming with Win32 API

Version control: Git

General skills

Spoken languages

English: C1 according to CEFR, IELTS overall band score: 8.0

Russian: native

Cultural and social activities

- 2012–2014 **Performer**, *Southern Federal University*, Rostov-on-Don.
Various cultural activities, being part of creative team of Institute of Mechanics, Mathematics and Computer Science.
- Playing on stage as a part of the performance troupe called “The Fashion Drama”.
 - Helping freshmans to get into flow of cultural life of university.
 - Being a part of stage service team.

Awards

- 2013-2015 Multiple prizes of region-wide creative festival “Russian Students Spring” for performances. As a part of performance troupe “The Fashion Drama”.

Interests

- Photography Mainly landscape and conceptual. Some photos are available on Flickr and Facebook
- Literature Albert Camus, John Fowles, Stanislaw Lem, Arkady and Boris Strugatsky
- Sports Cycling, Swimming

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📦 [geo2a.github.io](https://github.com/geo2a)